CLAIMS

What is claimed is:

1. An electronic system, comprising:

means for generating an absolute value of a real part of a signal;

means for generating an absolute value of an imaginary part of the signal;

means for generating a sum of the absolute values;

means for performing an averaging function on the sum such that a result of the averaging function provides an approximate power which indicates an actual power of the signal.

2. The electronic system of claim 1, wherein the approximate power enables a detection of at least one signal-to-noise ratio threshold in the electronic system.

3. The electronic system of claim 1, further comprising means for mapping the approximate power to an actual power.

4. The electronic system of claim 3, wherein the means for mapping comprises a lookup table having a set of entries each of which corresponds to a particular actual signal-to-noise ratio value and each entry having an approximate power which maps to a corresponding actual power.

5. The electronic system of claim 1, wherein the signal is a noise signal which indicates a difference between an output signal of the electronic system and an input signal in the electronic system such that the approximate power provides an approximate power of the noise signal which indicates an actual power of the noise signal.

6. The electronic system of claim 1, wherein the signal is an output signal of the electronic system such that the approximate power provides an approximate power of the output signal which indicates an actual power of the output signal.

7. The electronic system of claim 1, wherein the signal is a noise signal which indicates a difference between an output signal of a decision circuit in a demodulator and an input signal to the decision circuit such that the approximate power provides an approximate power of the noise signal which indicates an actual power of the noise signal.

8. The electronic system of claim 7, wherein the approximate power of the noise signal indicates a quality of a communication channel to the demodulator.

9. The electronic system of claim 8, wherein the approximate power of the noise signal enables a detection of at least one signal-to-noise ratio threshold in the demodulator.

10. The electronic system of claim 9, wherein the signal-to-noise threshold is used to switch among differing error determinations in a blind adaptive equalizer for the demodulator.

11. The electronic system of claim 7, further comprising means for mapping the approximate power of the noise signal to an actual power of the noise signal.

12. A power approximation circuit, comprising:

first magnitude circuit that generates an absolute value of a first signal which carries a real component of a complex signal;

second magnitude circuit that generates an absolute value of a second signal which carries an imaginary component of the complex signal;

summing circuit that generates a signal that carries a sum of the absolute values of the first and second signals;

averaging filter that generates an approximate power value in response to the signal that carries the sum, the approximate power value indicating an actual power value for the complex signal.

13. The power approximation circuit of claim 12, wherein the approximate power value is used to detect at least one signal-to-noise ratio threshold in a demodulator.

14. The power approximation circuit of claim 12, further comprising a lookup table which maps the approximate power value to an actual power value.

15. The power approximation circuit of claim 12, wherein the complex signal is a noise signal in a demodulator such that the approximate power value indicates an actual power value for the noise signal.

16. The power approximation circuit of claim 12, wherein the complex signal is an output signal of a decision circuit in a demodulator such that the approximate power value indicates an actual power value for the output signal.

17. A demodulator having a power approximation circuit coupled to receive a real and an imaginary component of a complex signal, the power approximation circuit generating an approximate power value which indicates an actual power value for the complex signal.

18. The demodulator of claim 17, wherein the approximate power value is used to detect at least one signal-to-noise ratio threshold in the demodulator.

19. The demodulator of claim 17, wherein the approximate power value is provided to an external processor which includes a lookup table that maps the approximate power value to an actual signal-to-noise ratio value.

20. The demodulator of claim 17, further comprising a lookup table which maps the approximate power value to an actual signal-to-noise ratio value.

D1 Cont.

21. The demodulator of claim 20, further comprising:

blind adaptive equalizer that generates a filter output signal in response to an information signal according to a transfer function which adapts in response to a selected error indication;

circuitry for providing the selected error indication by switching among a set of differing error indications in response to a determination of a relationship between the actual signal-to-noise ratio value and a threshold signal-to-noise ratio.